

UCT-0045  
PFO-0002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Fotios Papadimitrakopoulos )  
Serial No: 10/775,566 ) Group Art Unit: 1723  
Filed: February 10, 2004 )  
For: BULK SEPARATION OF ) Examiner: Joseph W. Drodge  
SEMICONDUCTING AND )  
METALLIC SINGLE WALL )  
NANOTUBES )

**VIA FACSIMILE: (571) 273-8300**  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR 1.131

Fotios Papadimitrakopoulos declares and states that:

1. I am the inventor of the invention claimed in the above-identified patent application.

2. I conceived, in the United States, the invention disclosed and claimed in the above-identified patent application prior to March 04, 2002 and then diligently reduced the invention to practice in the United States prior to March 04, 2002.

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3. As evidence in support of this prior conception and reduction to practice submitted herewith is the following evidence of activity done in the United States:

(a) Exhibit A is a copy of laboratory notebook data detailing experiments done by a graduate student under my direction in the United States sometime prior to March 04, 2002.

4. The laboratory notebook data of Exhibit A shows experimental results of a method for separating single walled nanotubes (SWNTs) by type. Specifically, as shown on P. 81 of the notebook, a mixture of semiconducting SWNTs (*sem*-SWNTs) and metallic SWNTs (*met*-SWNTs) was acid functionalized using a mixture of nitric and sulfuric acids and then surfactant amine functionalized with octadecylamine (ODA). After surfactant amine functionalization, as shown on P. 83 of the notebook, the ODA functionalized mixture of SWNTs was washed using ethanol and then suspended in tetrahydrofuran (THF). Subsequently, as evidenced on P. 84 of the notebook, additional THF was added to the suspension to promote precipitation (i.e., settling and sedimentation) of one type of SWNTs while the other type remained in solution (i.e., the black colored solution). This phenomenon is also described in the last three sentences of paragraph [003 f] of the Application as filed.

5. The undersigned declares that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this Application or any patent issuing thereon.

Date

12/12/05

  
Fotios Papadimitrakopoulos